# The salient features of the clock – a functional semiotic design analysis of relevance to digital design

What is the basis for talking about digital design products? How can designers be more concise in their discourse on design. This paper argues for the use of semiotics in practical design processes as well as within historical and interpretive research approaches. For this purpose the position of functional semiotics is explained in short terms and then further demonstrated in the analysis of a basic mechanical alarm clock.

On this ground, the digital watch and digital design products in general are characterised and three possible avenues for the interpretation of the interactive possibilities of design products are discussed. Finally some consequences for the role of the designer and the practical applicability of semiotics for design are brought into light.

**Toke Riis Ebbesen, Ph.D.**
Designskolen Kolding
tokeriis@yahoo.dk

**INTRODUCTION: THE SALIENT FEATURES OF THE CLOCK – A FUNCTIONAL SEMIOTIC ANALYSIS OF RELEVANCE TO DIGITAL DESIGN**

In this paper I shall try to argue for the use of semiotics in design analysis in practical design processes as well as in the descriptive and interpretative understanding of design products. I will briefly present the basics of a certain subspecies of semiotics, namely what I have chosen to call functional semiotics, also designated ”the third track” in semiotics by Guldberg [11]. With this in mind, I will demonstrate how the analysis can proceed using the example of the travel alarm clock and then, on the basis of this, try to draw some general remarks and perspectives in relation to the difference of analogue and digital design products. This may, with a practical application in mind, seem the reverse way of doing things, but the reader should bear in mind that the purpose of this paper is serving the humble purpose of attempting to provide a starting point for further exploration of this approach.

**THE ‘COMMUNICATION’ PROBLEM OF DESIGN DISCOURSE**

Within newer archaeology it is almost a cliché that we can tell something about the ways prehistoric people made meaning through the material objects available to us today. It is, as Julian Thomas says, because meaning isn’t connected to inner states of consciousness but flows in the networks of relations between people, things, events and different ways of organizing social life [20]. An ornamented clay vessel has form characteristics that tells us something about its social and cultural background, something about the technology available for its manufacture, something about the mineral resources available to the potter, something about the stylistic means of the potter, something about the way his ‘endusers’ prepared their food, and perhaps something about the size of the group eating together. These were certainly all things that weren’t intended to be shared with us today, but conditions we can infer on the basis of different methods of interpretation and empirical knowledge of the social and cultural conditions in present and past societies.

So when speaking about prehistoric events, the thought that things not necessarily communicate are perhaps not so difficult to accept. A stone age potter can impossibly have had any intention of telling us something today, solely because he couldn’t have had any idea of who might use, let alone make reference to his product, and still less that any research forum like the present one would find his vessel an interesting object of discourse. In contrast to this, when it comes to industrial and digitized objects like mobile phones, graphic design and other contemporary design objects, it is currently a standard phrase to says that they ‘communicate’ or even ‘speaks to us’. The main analytic point of this article is thus that, like archaeological objects, design products seldom communicate: they much more commonly indicate their meaning to us through interpretive procedures. Furthermore, design products are seldom constructed with the *intention* of communicating but with the aspiration of favouring certain indicative interpretations. Of course this isn’t to say that some things aren’t specifically made with the purpose of communication, and might be, as Tim Dant write, “talking to us” [6]. The info-boards in Danish train stations can actually, as a service to the blind, understood to ‘say’ something to its users and may also be seen to use communicative conventions in conveying its

text-based messages of train delays, departures, etc. But this is, as I shall try to show, a special case.

There is then, a gap between the common sense of past objects and the common sense of modern design objects, a gap that needs an explanation. I will therefore in this paper try to advance a theory of semiotics that can be applied in understanding the means available to the designer within a framework that recognise both communication, indication and a host of other forms of signification as its foundation. In further analysis, the train info board and other digital design objects can be better understood to use other means of providing meaning for users.

## A SEMIOTIC APPROACH

This paper take as its theoretical point of departure a functional semiotic framework, especially as it was developed in the approach developed mainly by Prieto [18], Buyssens [5], Bonta [3, 4] & Guldberg [10]. The strength of using such an approach is that it, more than other approaches, target material objects, such as design products and processes, and does not assume communicative or language behaviour between human beings as the universal model of sign processes involving physical products. All material objects can, according to this view, be semiotic resources, hence have the capability of acting as signs for a user. Communication systems such as languages, spoken as well as written, represent highly codified systems of symbols that has to be learned in order to be interpreted. On the other hand, most objects and media, including the phenomena we call digital technologies, are more indicative sign systems whose accompanying forms of interpretation are largely biologically "wired in" as an interactional sign capability rather than arbitrary and conventional results of a habit [14]. Using different approaches, prominent among them design historian Guldberg [11], less prominent film semiotician Sol Worth [23], I shall argue that researchers must distinguish between man's intentional communicative symbolic mode and his interactional, or indicative mode.

I shall also mention that digital technology is understood not just as a set of technical devices, but as system of signs that can be used and understood differently by different cultural sub groupings that have a certain set of habitual conventions in common, for which I, in accordance with design semiotician Bonta use the term semiotic community [3]. The design profession is an example of such a community, and the academic cultures of the natural sciences or the humanities other examples. It is obvious that a thing such as a computer could be interpreted quite different in the hands of an academic, than a designer, although it might have some material characteristics that give it similar indicative signification in both cases.

### Indication and communication

Let us start by spelling out the basic assumptions of functional semiotics. At the foundational core of functional semiotics is the Argentinean linguist and semiotician Luis Prieto. Prieto proposes in *Principes de noologie: Fondements de la théorie fonctionnelle du signifié* [19] and later works – on the basis of a logic of instrumental performativity – a general semiotics that investigates under what pragmatic conditions the operational possibilities and the utilities of an instrument can be brought into agreement. In more broadly known semiotic terms, the question is how something indicates or 'stands' for something else. All material things, including design products, thus indicate a certain use as tools for some operation, the specific use variously being a practical or a more abstract cultural function of some kind, e.g. the hammer can be used for hammering iron or as indication of a political party. But all such indications or 'meanings' are not equal. Some objects are interpreted by users as natural phenomena, and some objects are interpreted as semiotic actions [12], creating two distinct modes of interpretation that for the purpose of this paper can be specified as indication and communication. Of note, objects that are taken to be using communicative signs - signals - are a subclass of indicative signs – indicators – and thus always contain some indicative aspect. Thus design products as communicative objects are usually to be analysed semiotically not just as things that in a paralinguistic sense 'says' something to its users but also as objects that indicates some allegedly natural, or rather 'naturalized' state to its users.

### Indication

Lets delve a bit deeper into the nature of the indicative sign. Instruments are not semiotic before a user realise that they can fulfil a certain operation for him/her. Thus the design product in hand (or mind) is double classified as a relation between an specific indicated class of operations (e.g. hammering, punching, etc.) and an indicative class of phenomena (e.g. hammers). These two semi-abstract classes must furthermore, for the actual sign-action to take place, be related to the discursive universe of the user, characterized as the available indicative relations known to the user in the moment. This indicative process is most often based on some regularity in the way a given phenomenon in the users experience behaves and therefore functions best in 'saturated' contexts of action where similar actions has been performed many times. One such context could be the action of setting the alarm clock before going to sleep and then being awoken next morning. In such a context there is really no need for using language models to describe what is happening. You set the clock according to an estimate of what time you need to wake up next morning, usually the same time every working day of the week. There are many such cases, but also many situations where the situation is more liquid in character, thereby making it uncertain for the user what meaning to make of the design available. Is colors, size, geometric form, light reflection, texture, smell, placement in the room or other tactile properties the important? Or, as we shall see the functional position phrase it; what are the relevant features of the given sign system?

### Communication

With communication things get a bit more complicated. The communicative sign is called a signal, and is a subclass of the indicator. It is defined by Buyssens as a special indicator produced by a sign user that makes himself a *sender* with the explicit purpose of transferring a intent or content to another sign user, the *receiver* [5]. The communicative sign can only be interpreted correct if this other user recognise the signal as explicitly produced with communicative purposes and thereby makes herself receiver of the signal. In a given communication process there are then really two indications in play: the grabbing of attention that shows the receiver that the producer of the sign is a sender and the transmissive indication itself, the intentional content of the communication. Furthermore, the relation between sender and receiver is quite asymmetrical: the performative task of the receiver is to recognise or rather reconstruct the indicative content on the basis of essentially guesswork, establishing in the process both the discursive universes of the communicative product and of the situation. This is not the case for the sender who forms the product on the basis of his/her own content of mind from a well known internal discursive universe. The sign producer of the signal is thus in a dangerously comfortable position of pseudo-omnipotence while the intended receiver has many possibilities for interpreting the signal as indicated or for projecting communicative intent into indications. This creates a space for hybrid forms of making meaning.

Before talking about these hybrid forms, please allow me a few words on the functional position in relation to other sign theories. Both communication and indication involve the use of signs, but it should be obvious by now that both basic sign modes are conceived very different from the language derived sign, semiologists in the tradition of Barthes [2] and Eco [8]

usually talk of. The other main approach of semiotics, that of C.S. Peirce, is compatible with the view presented here, at least on the pragmatic level of realized signs [17]. But although Peirces' triadic semiotic approach is attractive because of its wide spanning, it is quite difficult to understand and apply correctly for most designers and design researchers in practice. It is the claim of this paper that these perhaps more well known ways of talking about signs have confused and made much applied research using semiotics more difficult than necessary – design products would had to be understood either as 'words' or 'languages', a viewpoint that has been shown to have no plausibility [16], or as abstract triadic processes.

**Hybrid forms**

Not only signals, but also indicators can be 'faked' by sign users by pretending to indicate, while they really communicate, or in the reverse, by pretending to communicate with what really is indicative signs of the state of sociocultural conditions. In general true, intentional communicative signs occurs most rarely and could in fact better be understood as idealized border cases. Nonetheless, there are then other hybrid forms of communication characterized by playing on uncertainty about and/or ignorance of the status of the indicative situation, because any communicative sign always contain an indicative aspect. Another reason for using these hybrid signs is that sign interaction in most of these situations takes places embedded in social power relations. Sign users, including designers, therefore always have an interest in choosing specific features of and object to indicate in a given context.

This dissolving of the communicative in design has, as I will try to show in the example of the alarm clock, large ramifications for the analysis of design objects.

**Articulation**

Before we turn to the analysis of the alarm clock I shall briefly mention that one way of working with this approach is to identify different ways by which users ascribe articulation to products. Functional semiotics has discussed several such classifications but the main principle is the principle of relevance or pertinence. This principle concerns the criteria for recognition of different sign aspects. It designates the semiotic 'minimal units', called the salient features. These are the minimal traits whereby the indicative and indicated levels can be coordinated, for example the most narrow intentional content that can be carried with a given signal. Any product functions as a coherent semiotic system as long as its elements are reasonably differentiated from each other. In assessing a product's relevant features the relevance equals the property by which an element in the product could be said to be structurally different and thereby distinct from another element in the same system. In short, salient features can be contrastual, oppositional or alike, depending on their relation.

I will not at this place go further in depth with the theoretical aspects of this, but try to show how it works, integrated in analysis and interpretations.

**EXAMPLE: THE GOOD OLD ALARM CLOCK**

With this example I would suggest you to think the good old alarm clock placed in a bedroom after purchase. The central salient features of this clock is the face, placing the numbers 1 to 12 in a circle, usually with four points inserted between each number. Radiating from the centre hub of the face is three hands that rotates around the hub with different rates in such a way that the time with a reasonable amount of precision is given (or indicated) as a function of the positions of the three hands. The position of the long hand designates 'minutes'. The short hand position more inaccurately designates the time as 'hours' within the interval of the 12 numbers. The short and long hands are what would be called contrastual salient features of the clock. The short hand is as an indication better articulated than the long because it in itself point to the hour of time with a fair precision while the long hand merely specifies a more exact statement of the long hands' designation. The third hand, counting seconds is different from the two previous articulations, although it stands in relation to the general counting of time. It designates the time in 'seconds' and moves in small visible steps. It specifies a relatively precise beat of the seconds passing, at least in human perceptual standards. Often, perhaps either as the result of cost reduced cheap mechanic parts or following a deliberate intention of redundancy, the second steps are underlined by an auditive "tic-tac-tic-tac" rhythm.

**Figure 1: The alarm clock in its classic incarnation.**

The actual shaping of the numbers on the dial are not salient features because they could be replaced by any other indicative expression that would pretend to indicate the 'actual time'. There doesn't even have to be 12 numbers. The absence of numbers would for most people not be a hindrance in the interpretation of the time simply because the splitting of the 24 hours day in to 12 hour cycles are the basic discursive assumption for interpreting the indicated function of the watch. Likewise, the size of the clock face and hence the absolute lengths of the arms aren't absolutely salient features. There has to be though, a certain relative difference in the lengths of the long and short arms for them to clearly designate that they are measuring different units of time. This could be done by way of differences in form or colour choice though.

**The indicated**

Until now we have been concerned mainly with the meaning of the basic clock face from the perspective of the indicative level. On the indicated level, that of the allegedly natural phenomenon of time we find two salient traits.

First, there is an indicated 'normal time'. For example, this tells for the user that its twenty minutes past seven, an approximate of the time for most human scale purposes. This way of using the indicated has one major disadvantage, namely that it is not articulated whether we are talking about the first or second half of the day. The measuring of time by an old style alarm clock is therefore largely dependent on other situational factors, such as whether it is light or dark outside the room where the clock is placed.

Second, we have the indication of a 'seconds time' that can be used to measure shorter intervals of time, e.g. for the purpose of cooking eggs. Since the usual mechanical clock isn't well suited for this purpose, mainly because of the continuous recycling of the 60 seconds available, this indicative content seems like a non-salient feature. The indication of the second hand thus carries a paradoxical opposition between a very salient expression on the indicative level and a very insalient level of the indicated: Many sleepless nights have undoubtedly been spent in irritation over ticking clocks!

**Classification**

One speaks within the functional position of *rich* versus *economical* design, each having its advantages. By using 'economy' in the design expression, the designer can achieve better by less means. He could for instance choose to draw only the round face with no numbers on it, thereby offering, by way of the previously mentioned basic assumption of the 12 hour cycle that interpreters most often ascribe to clocks, a more clear interpretation of the clock than by using a face with all twenty four hours and sixty seconds dots on it. Another well-known example would be the effective use of three-digit hotel rooms, marked by level and distance to the elevator, rather than assigning each room an individual name, like "Princess suite". On the contrary 'rich' designs use the exact same mechanism, to sculpt the product as individual in the stream of material culture it is supposed to be used in, but in the reverse. Thus rich products are better suited for use in situations where they are not placed among others in an elaborate product system, but rather in situations with many competitive products.

Another basic way of classifying relations between indicated and indicating elements in semiotics is to distinguish between 'motivated' and unmotivated relations. The idea is that some expressive elements are more naturally signifying natural phenomena on the indicated level. The dial of the clock is an example of a seemingly natural instrument in pointing to the time of the day. Conversely the equations of mathematics are often said to unmotivated by their indicated contents: In other words: mathematics could be expressed in other forms, e.g. by way of geometry, and therefore requires an extra classification effort in comparison to the clock dial. Within functional semiotics this calls for a distinction between intrinsic, self-motivated sign systems and extrinsic, externally motivated system. But this distinction is quite problematic as well. The motivated relation often seems to be impossible to define if we begin to cross-examine more actual cases. Furthermore, what was once deemed motivated relations are later being revealed as unmotivated.

In the case of the alarm clock, the indicating measurement of time through the dial is of course motivated by something outside of it self, but the indicated is not the factual time: it is an adopted convention for the measurement of time. Today this convention is based on the frequency of certain atomic oscillations, where the time is a factor of this frequency. Earlier it was based on other natural phenomena, such as the suns passing in the skies or the frequency of water drops falling through measurement devices. It would therefore be more precise to speak of coded sign systems, whereby by 'codes' is meant "an explicitly adopted convention" [12]. In contrast to this the clock is thus utilising an indicative code that has to be learned before you can use the it, and that require knowledge of a number of elements before you can use them: the numbers and the exact difference between the hands of the dial. So, while the basic ability to use indicative and communicative modes of interpretation may be 'wired' in the human biology, the specific codes has to be learned. I have overheard 5 year old kindergarten children having difficulties in understanding the conventions of the clock, for example in the following conversation:

*Kid: "When is it 12 o'clock?"*

*Teacher: "In 15 minutes. Look at the clock. When the long hand reaches the little one it is 12.*

*Kid: "Which hand is the big one?".*

*Teacher: "The lowest hand..".*

*Kid: "Which one is the lowest hand?".*

*Teacher: [deep sigh] " the one below the other."*

(heard during field observations connected to an unpublished children and media-related project).

Eventually the kid and the teacher reaches an agreement on the differentiation of the hands, the final agreement being reached by way of a non communicative indication, namely that of using the index finder for pointing out the long hand. Thus, while the clock as a semiotic system is based on explicit conventions that in the last analysis are communicative, it is also learned by way of non communicative means, and is used in daily life *as if* it was merely an indicative system.

I shall not delve deeper into this analysis of the basic functions of the alarm clock. The analysis can be continued by looking at other traits, such as the alarm function and the setting controls on the back of the watch. In the context of a design congress the elaborate and perhaps not so intended shaping of the clock case is, I think, an equally important consideration.

**The casing and the type**

Alarm clocks always bear the indicative marks of the way they are produced and of a car with all the gadgets the materials used in the process of production, distribution and presentation of them. It could look like it was craft made and thereby not have the mechanically induced joints, marks of plastic moulding, etc. that typically characterise industrially produced goods. Of note, designers of course always have the opportunity to manipulate these kinds of traits so that the clock can seem like it had an authentic craft character even though it might be mass produced in a Chinese factory.

**Figure 2: A Mickey Mouse watches. The case shaping has salient features of signification.**

The shaping of the clock case can be more or less suggestive. Looking at the clocks in a watchmaker's window, most travel alarm clocks will have a more or less geometric form, either cylinder shaped or a lightly rounded form. Most important of these variations is that they can be analysed as types related to other types of clocks, each with a set of basic indicative features, but all adhering to the basic indicated clock functions. There's water clocks, digital watches, sand clocks, sun dials and probably more. Of course, it is also possible to interpret the clock as indicative of something completely different than the clock function; hence we would be speaking of different cultural indications. It could for example, in the sense of Wölfflin [24] be exposing a certain style typical of the era of production, e.g. the Mickey Mouse clock indicates late twentieth century postmodernism in design and architecture.

If the clock was to be placed in a different functional context than the bedroom it would be necessary to interpret it differently. In the supermarket, the shape of the casing, the

clock size, colour, etc. would indeed be very important traits for the user. In the role of consumers, users of design utilise a range of strategies that in most cases bear no relations to the basic watch features sketched out in this paper.

## THE DIGITAL WATCH

As can be seen, the clock articulates by way of indication in different ways. What happens when the alarm clock, especially the central dial face becomes digital?

On a first reflection it is perfectly clear that in the digital watch another articulation replaces the round dial and its hands with other salient features. Instead of we most often see a screen with a sequence of salient indicative features, a series of numbers and other special signs. The central time-pointing numbers are read text-like from left to right - hours, minutes, seconds – while other signs indicating alarm functions, date of month, etc. are placed with less prominent positions and sizes around the central numbers. Most often, these other functions of digital watches are impossible to interpret without previous knowledge of them, hence has to be learned, either by experimenting with the buttons of the watch or by consulting the manual.


**Figure 3: Digital watch, 2003.**

Seemingly formative features of the digital watch are much less conventionalised, drawing instead on either interactional learn-by-doing processes or on conventions tied up with the widespread interpretive domains of latin numbers and printed languages. So, the question would be pretty easy to answer if the expression of the clock was the only thing changing. But what really matters about the digital happens both on the level of the indicated and on the form level of indication. So lets discuss what the difference between digital and normal, mechanical or non-mechanical material objects are.

### The difference between digital and analogue design objects

When it comes to material objects, digital technologies can't do anything new that can't in principle be done with well-known mechanical technologies. There is thus no magic involved. Known techniques for recording and transmission are means of sharing tokens of abstract signs that before their invention approximately 30000 years ago were only accessible to the mind and thus could only be shared by means of bodily and vocal gestures. It began with painting and writing and continued with the invention of many different techniques, e.g. smoke signals, the telegraph, the semaphore, and the telephone. Before that the human memory only had 'typical' signs available: The spoken word "ox" (and its mental correlate) could only indicate in a quite fluid form, and could not without additional gestures convey any specific cow. By fixation of the specific cow as a semi-durable physical sign it was possible to talk about specific cows and count them. Thus these techniques allowed a much more precise interaction and communication between human beings. All these 'means of indication' are today being replaced by digital technologies that in different ways are able to manipulate signs in ways that would either have been very difficult or time consuming with earlier methods. So what I am basically arguing is, in line with Brian Winston [22], that digital technologies are not signifying a radically 'new' break but continuing a grand tradition in human history of storing and interacting signs. But even if the differences between analogue and digital signs are only gradual it perhaps seems commonsensical that there is something special happening in design products with the advent of the digital.

### The 'new'

Within digital design products, on the level of the indicated, something relatively new happens – at the core of the digital. Digital components are on the most basic hardware level of the microchip articulated as sign systems composed exclusively of binary on/off states. This binary shifting of states are translated into machine code, then to programming code, then to user interfaces of various kinds that again sample various kinds of input that through the reverse process are translated into binary states [1]. All in all it's a wonderfully complicated and significantly new kind of technology with no obvious mechanical parallel. But when we move up through the levels of the logical operations of digital technologies we always end on the level of the object surface, the only accessible and meaningful level to most users. This has the peculiar consequence that in a semiotic perspective there is no difference between analogue and digital objects as long as the digital objects don't offer any specially articulated ways of interacting with the user. Thus the digital design product needs to be either more richly articulated or types entirely different from analogue items. An object can easily appear as analogue from a limited user perspective if it merely employs digital circuits to replace semiotically rich analogue products.

### The digital watch

A digital watch that kept the same casing as the analogue alarm clock, and moreover used the traditional mechanical hands and dial, wouldn't be very interesting or 'new' from an average user perspective, even less from a designers' perspective. This isn't to say that the digitality of such a watch couldn't be articulated and have a social or cultural relevance in other phases of the cultural circuit of this particular watch. The digital clock would for example demand other systems of quality assurance, other organisation forms and other material means of production, including tools and raw materials in general than mechanical clockworks. The digital watch would probably be cheaper to produce but perhaps be more difficult to dispose of in an environmentally safe way. This points to some central features that any personal computer has and that most other digital design objects lack. The so-called digital products often lack the ability to use the instrument as a 'universal machine' that can do any thinkable operation, which is the ideal of the digital computer. In connection with this central notion of non-universality, the watch lacks the ability to be programmed according to user-wishes, because the programmable states of the watch are predefined by the designer, following a narrowly defined script of possible interactions, made possible by a chain of indications in the software and hardware of the watch. To state it shortly, digital design objects are interesting because of the complex possibilities of interacting they might offer, as a result of the designers work, not because they have some pseudo-metaphysical essence of 'digitality'. Meanings are never, not even in mechanical or otherwise inanimate objects univocal, clear-cut one-to-one significations. Thus we can imply that there is no fundamental difference in digital watches, merely differences in other factors, which lie beyond the watch conceived as a singular object.

Most digital watches has a great deal more indicated functions than the hypothetical one mentioned here, i.e. functions like snooze, stop timers, water depth measuring, radio control, sleep timers, etc, that in different ways expand the well-known articulation of the mechanical alarm clock. Examples would include "Clocky", the clock that hides from the user, making continuous pushing of the snooze button difficult [15]. Or one could mention prototypes like the 'intelligent watch' that changing its snooze pattern and expression to situational and interactional factors such as disturbing lights and sounds during the night time or the sleep time set, making the indicated 'emotional' experience more fine-tuned to the needs of the user [21]. Thus there might seem to be an argument against using the a semiotic analysis on more interactive products. But even the here suggested counter-examples would require thoughts on behalf of the designer on how to indicate the new behaviour of the watch in a new, but yet conventionally comprehensible way.

**Figure 1: "Clocky", the 'intelligent' watch that hides from the user every morning. 2005.**

This brings us back to the question of semiotic type. For to be able to be recognised, hence sold on the market as a watch it can't incorporate too many new indicated functions. If it did it would probably (and I think this is common wisdom in marketing) fail to sell but to a few selected gadget enthusiasts. Designers of digital objects are thus mostly conforming to a few select new types that develop on the basis of earlier, often analogue product types in a gradual process. There is thus reason to use the word 'innovation' with caution when talking about any product of significance in the material culture of modern societies. New indications that break with conventional means of representation do occur, as we see many 'new' digital types appear through a relatively short period of time in the 20th century, but they are in general modified heavily and adjusted to reigning product conventions, as expressed in "the law of radical suppression of ideas" by Winston [22].

## THE ROLE OF THE DESIGNER

With innovation being such a seemingly impossible thing for designers, there surely must be some other role left for the designer. There are at least to main avenues of the themes discussed here. The designer could be conceived to have a certain degree of control over the interactional situation his product is to be used in. This would be peculiarly similar to the German ideal of the gesamtkunstwerk or 'total design' of pioneer modernism, offering a unified whole of interpretations for a host of different design objects [9]. This might not be a globally attractive ideal for all design users. Anyway, the designer would not be able to control the most important factor in any material cultural situation, i.e. the transformation of meanings taking place over time as products are mediated and distributed in the various forms of the industrial societies, not to mention the very different situations of appropriation products are placed in with consumers.

Along another avenue of thought, the development of digital technologies could be conceived negatively as transferring the authorship of design products from the designer to the consumers. Thus, it could possibly happen that digital design products eventually would be so richly articulated that the work of the designer would be indistinguishable, and the user could become a kind of designer in his own right. Arguments like this are not very strong, as long as a reading doesn't constitute a writing. As Guy Julier says, the software used to author complex interactive products are not immediately accessible to anyone – they are expensive specialised tools that takes experience, education and money to operate [13]. In other words, anyone can download Photoshop from a file server on the Internet, but to use the program fully you need tacit and learned skills vastly beyond the regular user. This means that although many has the basic skills to use digital products, and even to interpret its most widespread typical conventions and regulated indicative functions, this doesn't mean that they master all the semiotic competences required for the complex social and technical digital production process. There is in fact quite a gap between designers and users, contested by the efforts going into usability research these years. The question is whether this gap of skills between users and digital designers can at all be reconciled as long as the necessary skills are entwined in professional (and continually professionalizing) design educations and organisations.

These considerations seem to lead to a plausible middle road solution in the possible route for digital designers. This mediating solution recognise the strong position of designers in relation to users but also acknowledge the fact that it is still rather difficult or not preferable to control the interactions of digital design products. This viewpoint lends itself credit when one admits that design is not about simply laying out simple messages in materials, or of "communicating". Design concerns itself with a complex mix of communication and the suggestion of advanced pragmatically founded and culturally grounded indications.

## THE LESSONS FOR DESIGNERS AND RESEARCHERS

What then, can these rather abstract speculations on the part of the nature of design products and the role of designers be used for? For one thing it would be refreshing to see designers use a more explicit language when describing the 'mythical' process of designing products. Successful design products work by tapping into the streams of material and mediated culture via the use of very advanced methods of subtle indication. Designers would be better designers if they understood this and actively designed for it, rather than delving into utopian treaties of how they communicate with end users. Designers could also, like historians of design benefit from an analysis of the way indicated meanings ascribed to certain products and product types are being transformed in relation to societal and cultural developments. This would create a sounder basis for an understanding of current and future products.

Thus, this paper calls for more research into how the semiotic approach here sketched could be further applied in the solving of design problems as well as in histories of design and other forms of design analysis.

To return to the main strands of this paper, namely the question of the communicative status of design objects, let me shortly pose a question in relation to the alarm clock: What is it really you do when setting the alarm clock to go off in the morning? Are you communicating with someone? With yourself? With other people? With the watch?

*It should be noted that this paper is based on the more detailed semiotic considerations of the authors' recently completed Ph.D. project on the use of digital semiotics and material culture studies in design [7].*

**REFERENCES**


1. Andersen, P.B. What semiotics can and cannot do for HCI. *Knowledge Based System*, *14*. 419-424.

2. Barthes, R. Myten af i dag. in Barthes, R. ed. *Mytologier*, Rhodos, København, 1969, 143-149.

3. Bonta, J.P. Architecture and its Interpretation, Lund Humpries, London, 1979.

4. Bonta, J.P. Notes for a Theory of Meaning in Design. in al., G.B.e. ed. *Signs, Symbols, and Architecture*, John Wiley & Sons, Chichester, 1980, 271-310.

5. Buyssens, E. *La Communication Et L'articulation Linguistique*. Presses Universitaires, Bruxelles & Paris, 1967.

6. Dant, T. *Material Culture in the Social World*. Open University Press, Philadelphia, 1999.

7. Ebbesen, T.R. *Design. Digital Semiotics and Material Culture*. University of Southern Denmark, Odense, 2005.

8. Eco, U. *A Theory of Semiotics*. Indiana University Press, Bloomington, 1986 (opr. 1976).

9. Greenhalgh, P. (ed.), *Modernism in Design*. Reaktion Books, London, 1990.

10. Guldberg, J. Designsemiotik, 1992.

11. Guldberg, J. *Skitse til en Materielkulturel Semiotik*. Center for kulturstudier, Odense, 2003.

12. Hervey, S. *Semiotic Perspectives*. George Allen & Unwin, London, 1982.

13. Julier, G. *The Culture of Design*. Sage, London, 2000.

14. Moriarty, P. Visual Communication as a Primary System. *Journal of Visual Literacy*, *14* (2).

15. Nanda, G. Clocky: The Alarm Clock That Hides (academic research project), http://www.clocky.net.

16. Nöth, W. *Handbook of Semiotics*. Indiana University Press, Bloomington and Indianapolis, 1995 (1985: Handbuch der Semiotik).

17. Peirce, C.S. A Guess at the Riddle. in Moore, E.C. ed. *Charles S. Peirce: The Essential Writings*, Prometheus Books, New York, 1998.

18. Prieto, L.J. Messages et Signaux, Presses Universitaires de France, Paris, 1972.

19. Prieto, L.J. *Principes de noologie: Fondements de la théorie fonctionnelle du signifié*. Haag, Mouton, 1964.

20. Thomas, J. *Time, Culture and Identity*. Routledge, London & New York, 1996.

21. Wensveen, S. and Overbeeke, K. Adapting through behaviour: What my alarm clock should know, do and feel. in Helander, Khalid and Tham eds. Proceedings of The International Conference on Affective Human Factors Design, Asean Academic Press, London, 2001.

22. Winston, B. *Technology and Society. A History: From the Telegraph to the Internet*. Routledge, London, 1998.

23. Worth, S., Toward an ethnographic semiotic. in *Utilisation de L'ethnologie par le cinéma/Utilisation du Cinéma par L'ethnologie*, (Paris, 1977), (unpublished).

24. Wölfflin, H. *Principles of art history, the problem of the development of style in later art*. G. Bell and Sons, ltd., London, 1932.